

Serial No. 10/541,311

Amendment Dated: October 10, 2006

Reply to Office Action Mailed: July 10, 2006

Attorney Docket No. 095309.56500US

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1.-44. (Cancelled)

Claim 45. (New) An installation for aftertreatment of exhaust gas generated by a combustion device, said installation comprising the following components:

a nitrogen oxide storage catalytic converter configured for temporarily storing nitrogen oxides contained in the exhaust gas during adsorption operating phases with a lean exhaust gas air ratio, and releasing and reducing stored nitrogen oxides, during regeneration operating phases with a rich exhaust gas air ratio;

an SCR catalytic converter arranged downstream of the nitrogen oxide storage catalytic converter, said SCR catalytic converter being configured to receive and store ammonia generated by the nitrogen oxide storage catalytic converter, and to reduce nitrogen oxides in the exhaust gas with the stored ammonia;

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a particulate filter arranged upstream of the SCR catalytic converter and downstream of the nitrogen oxide storage catalytic converter; and

a reducing agent supplying device coupled to feed reducing agent into the exhaust gas downstream of the combustion device and upstream of the nitrogen oxide storage catalytic converter such that during lean-burn operation of the combustion engine, an exhaust gas air ratio upstream of the nitrogen oxide storage catalytic converter is lowered into a rich range, for performing regeneration of the nitrogen oxide storage catalytic converter.

Claim 46. (New) The installation according to Claim 45, further comprising a first oxidation catalytic converter arranged upstream of the nitrogen oxide storage catalytic converter.

Claim 47. (New) The installation according to Claim 45, further comprising an NO₂ producing catalytic converter disposed upstream of the SCR catalytic converter.

Claim 48. (New) The installation according to Claim 47, wherein said NO₂ producing catalytic converter includes a catalyst material which allows ammonia contained in the exhaust gas to pass through without a conversion reaction when the exhaust gas composition is rich.

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Claim 49. (New) The installation according to Claim 46, further comprising a second oxidation catalytic converter disposed at a downstream extremity of the installation.

Claim 50. (New) The installation according to Claim 45, wherein said particulate filter has a catalytic coating.

Claim 51. (New) The installation according to Claim 45, further comprising means for determining a nitrogen oxide content in the exhaust gas stream, downstream of at least one of said components which is selected from the group consisting of the nitrogen oxide storage catalytic converter and the SCR catalytic converter.

Claim 52. (New) The installation according to Claim 45, further comprising means situated downstream of at least the nitrogen oxide storage catalytic converter, for determining an ammonia amount from the SCR catalytic converter loading or from the exhaust gas stream.

Claim 53. (New) The installation according to Claim 45, further comprising a reducing agent supplying device configured to feed fuel into the exhaust gas stream, as a reducing agent.

Claim 54. (New) The installation according to Claim 53, wherein said fuel is hydrogen.

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Claim 55. (New) An exhaust gas aftertreatment method for a combustion device, said method comprising:

operating the combustion device under lean-burn conditions;

temporarily storing nitrogen oxides contained in the exhaust gas in a nitrogen oxide storage catalytic converter during adsorption phases;

releasing stored nitrogen oxides from the nitrogen oxide storage catalytic converter during regeneration phases, and thereby generating ammonia;

temporarily storing generated ammonia;

using the stored ammonia for nitrogen oxide reduction in an SCR catalytic converter arranged downstream of the nitrogen oxide storage catalytic converter; and

during operation of said combustion device under lean burning conditions, lowering an exhaust gas air ratio upstream of the nitrogen oxide storage catalytic converter into the rich range, by feeding reducing agent being fed to the exhaust gas, for regeneration of the nitrogen oxide storage catalytic converter in a respective regeneration phase.

Claim 56. (New) The method according to Claim 55, further comprising:

filtering out particulates contained in the exhaust gas leaving the nitrogen oxide storage catalytic converter; and

guiding filtered exhaust gas to SCR catalytic converter.

Claim 57. (New) The method according to Claim 55, wherein the combustion device is operated within an air ratio between 1.0 and 1.2 in said regeneration phases.

Claim 58. (New) The method according to Claim 55, further comprising enhancing an NO₂-ratio of the nitrogen oxides in the exhaust gas by means of a catalytic oxidation with an NO₂-producing catalytic converter.

Claim 59. (New) The method according to Claim 55, wherein the lowering of said air ratio is based on a desired ammonia generation quantity.

Claim 60. (New) The method according to Claim 55, further comprising:

adjusting a duration of a regeneration operation phase based on a desired ammonia generation quantity.

Claim 61. (New) The method according to Claim 55, further comprising:

determining an exhaust air ratio downstream of the nitrogen oxide storage catalytic converter; and

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terminating a regeneration operation phase if the determined exhaust air ratio drops below a threshold value.